OUTLINE SHEET 1-1-1
Engineering Department Organization

A. Introduction

In order to effectively function as a team, all members must know the organizational structure and responsibilities of each team member. This lesson topic will help you understand how the Engineering Department is structured onboard a naval vessel.

B. Enabling Objectives

1.1 **DESCRIBE** the organizational structure of the engineering department.

1.2 **STATE** the responsibilities of members in the engineering department chain of command.

1.3 **DESCRIBE** the engineering department watch organization.

C. Topic Outline

1. Introduction
2. Overview
3. Organization of the Engineering Department
4. Ship's Watch Organization
5. Summary and Review
6. Assignment

ASSIGNMENT SHEET 1-1-2
Engineering Department Organization

A. Introduction

This assignment is to be used as review of the material covered in class.

B. Enabling Objectives

Refer to enabling objectives in Outline Sheet 1-1-1.

C. Study Assignment

1. Read Fireman NAVEDTRA 12001, pages 1-1 to 1-8.
2. Read Information Sheet 1-1-3

D. Study Questions

1. What are the responsibilities of the engineering department?
2. Who is the Damage Control Officer?
3. List the divisions of the engineering department and describe the duties of each division.

INFORMATION SHEET 1-1-3
Engineering Department Organization

A. Introduction

This information describes the Organizational Structure of Engineering Department.

B. Reference

Fireman NAVEDTRA 12001
Engineering Administration NAVEDTRA 12147

C. Information

I. The ship is organized into different departments and elements with varied functions that contribute to the success of the ship.
   A. The responsibility for the organization of the officers and crew of a ship belongs to the Commanding Officer.
   B. The Department Heads are responsible for the organization of their departments for readiness in battle and assigning individuals to stations and duties within their respective departments.
   C. The Standard Organization and Regulations of the US Navy Manual (SORM), OPNAVINST 3120.32B, is used to guide the formation of the administrative organization of the ship.
   D. The SORM organizes the Engineering Department for the operation, maintenance, and repair of ship's propulsion plant, auxiliary machinery, and piping systems.

II. The head of the Engineering Department is the Engineer Officer.
   A. The Engineer Officer is assisted by:
      1. Main Propulsion Assistant (MPA)
         a) Responsible for the ship's propulsion machinery and related auxiliaries.
         b) May serve as Division Officer for the Main Propulsion (M) division in smaller ships.
      2. Damage Control Assistant (DCA)
         a) Responsible for the prevention and control of damage.
         b) May serve as Division Officer of Repair (R) and Auxiliary (A) divisions.
      3. Electrical Officer
         a) Responsible for the shipboard electrical safety program.
         b) May serve as Division Officer of Electrical (E) division.

III. The Division Officer (DIVO) is in charge of the administration of the division.
   A. The DIVO directs the division through the Leading Chief Petty Officer (LCPO) and workcenter supervisors (WCS).
   B. The Division Leading Chief Petty Officer assists the DIVO in the coordination and administration of the division.
   C. The Leading Petty Officer is usually the senior petty officer in the division. The LPO assists in the supervision, training, and watchstanding qualification of division personnel.

IV. The Engineering Department of a naval ship is divided into divisions.
   A. Auxiliary (A) Division operates the refrigeration plants, air compressors, air conditioning and heating, diesel generators, small boats, and other auxiliary equipment.
   B. Main Propulsion (MP) Division is responsible for the main engines, reduction gears, main shafting, bearings, main boilers, and all auxiliary machinery that support the engineering plant.
   C. Electrical (E) Division is responsible for the generators, power and lighting distribution, interior communication, and other electrical equipment throughout the ship. E-Division also is in charge of enforcing the electrical safety program for both personnel and shipboard electrical equipment.
   D. Repair (R) Division is responsible for the maintenance of damage control equipment, fire-fighting equipment, hull fittings and piping systems not assigned to other divisions. R-Division also provides welding and allied services to other divisions.

V. The primary objective of the ship's watch organization is the security of the ship under all probable conditions.
   A. Watch stations are manned at varying levels based on the probability of battle. The highest degree of readiness requires complete readiness of the ship for immediate action, with battle stations manned.
   B. The lowest degree of readiness is when the ship is inport where a duty section assumes all the watches and duties for a period of 24 hours.
   C. The Engineering Department requirements for wartime cruising and peacetime cruising are the same on most ships. For the purpose of this lesson, both conditions of readiness are to be called "underway" conditions. The Officer of the Deck is overall in charge of the operation of the ship while underway.
      1. The Engineer Officer of the Watch (EOOW) is in charge of the main propulsion plant and of the associated auxiliaries. He or she is responsible for the safe and efficient operation of the engineering watches.

2. The Damage Control Watch Officer supervises the maintenance of the material condition of readiness in effect on the ship. He or she is responsible for the operation of various hull systems. He or she reports directly to the Officer of the Deck on matters that affects the watertight integrity, stability, trim or other conditions.
3. The Sounding and Security Watch is the ship's first line of defense in maintaining watertight integrity. The primary mission of this watch is to look for fire and flooding hazards.
4. The Messenger of the Watch performs a number of duties. He or she is normally assigned as the phone talker in certain situations. The duties of this watch include checking operating machinery and recording temperature and pressure readings.

D. While the ship is inport, the duties of the EOOW are assumed by the Engineering Department Duty Officer. The Engineering Department Duty Officer is not required to be at the EOOW station but he or she must always be ready when needed during his duty day. The Command Duty Officer is overall in charge of the operation of the ship while the ship is inport.

E. When the ship stops operating its plant and is receiving services from shore or other ships, the ship is considered to be in a cold iron status. It is in auxiliary steaming status when it is generating its own power with the main engines secured.
1. The Cold Iron Watch makes frequent inspections of assigned areas to look for fire hazards, flooding, sabotage, unauthorized personnel, and other unusual conditions.
2. The Cold Iron Watch is also stationed at idle firerooms and engine rooms while underway.